

Sonic Proxemics and the Art of Persuasion: An Analytical Framework

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Abstract:

This paper introduces a framework for the creation and analysis of sonic spatialization and proxemics in audiovisual media. The authors apply the framework to three public service announcements to show how sonic proxemics can be used as a rhetorical device that may be used to strengthen political aims.

Introduction: Sonic Proxemics

The rhetorical potential of the spatial positioning of sound is often overlooked. As John Purcell outlines in a book on dialogue, “perspective in sound reflects decisions we make concerning our relationship with the screen action as well as the relationships—physical and emotional—between the characters within the scene” [1]. Auditory perspective is an important element of storytelling, and can be used to create emotional, physical, psychological, or social distances. Through the use of sound, we are positioned within or outside a scene; emotionally close or distant; connected or disconnected. Sounds can be emphasized to draw our attention to particular

objects or characters, or draw attention away from and distract us from other elements in a scene. It is therefore important that we understand as theorists how the spatial positioning of sound can influence our reading of media, and that we as practitioners understand how we can use the spatial positioning of sound as a rhetorical device.

The emotional, social and cultural aspects of spatial positioning (specifically distance and notions of territory), are commonly discussed in terms of *proxemics*. Edward Hall [2] outlined a theory of proxemics whereby people maintain a series of physical and social distances to others. Each set of distances relates to a specific level of comfort that we feel with the person inside that distance. The *intimate* distance, closer than 46cm to our body, correlates to embracing, touching or whispering and is reserved for people very close to us. *Personal* distance is the space in which we let friends or family members encroach, and ranges from 46cm up to 122cm. From there, *social* distances, where acquaintances may interact, are from 1.2m to 3.7m and *public* distances are beyond that space. When these distances are encroached, it can leave us feeling uncomfortable and defensive: If a stranger steps into our intimate space to whisper in our ear, we will draw back and respond with discomfort.

In film and television, camera angles are sometimes spoken of and used in terms of these proxemic zones (see [3]; [4]). For example, extreme close-ups and close-ups may draw attention and provide a particular significance to an object or person by placing us intimately close. Medium close-ups are in the personal zone, social distances are characterized by medium and full shots, and so on. The distance from the camera to the object creates a subjective perspective

that mimics the social and emotional distance from what is being filmed. Ferguson and Ferguson refer to this space as the “optical distance”; “the viewer’s perception of the physical distance that would separate him from the communicator or from the *event if he were actually present at the event*” [3].

As with visual proxemics using camera angles, we can infer a sonic proxemics relating to the subjective auditory distance from a sounding source and the audience. As with point of view, an auditory perspective can be crafted for the audience using recording and mixing techniques that enhance audience identification with characters, provide information about the relationships between characters, and draw attention or distract focus. Sonic proxemics is an area of growing interest to scholars when it comes to voice and music (see [5]; [6]). However, to our knowledge this approach has not yet been applied to sound effects, nor with a particular emphasis on the persuasive power of proxemics as a rhetorical device. In this paper, we provide a framework to show how the perceived spatial positioning of sound effects can significantly influence an audience by placing that audience in a particular subjective perspective. We use three examples from public service announcements to illustrate our analytical framework in action. We therefore explore and explain how sound can be used to subjectively position an audience, and thus be used as a persuasive, rhetorical device.

A Framework for the Analysis and Creation of a Sonic Proxemics

Sonic distance, and subsequently sonic proxemics, is created using several different techniques. These aspects of sound can be combined, conflated and confused through artificial means in

post-production—heightening the volume of a naturally quiet sound or having a low volume on a naturally loud sound, reverb on a close sound, and so on. In other words, even a recording of an original live event can be significantly manipulated after the recording.

1. Microphone selection: Some microphones are better at capturing more delicate sounds as well as different frequencies, and some have a faster transient response time (the ability to respond to changing sounds), which influences the timbre of the sound. For instance, a condenser microphone such as the Neumann U87 has a nearly flat frequency response except for a slight lift in frequencies from about 5kHz to 15kHz. This higher frequency range will catch more sibilance on a voice, for example, and give the impression of closeness.
2. Microphone distance and angle from the source: A closer microphone will capture small sounds that even our ears may miss. On vocals, this closeness means capturing mouth smacks, tiny clicks from inside the mouth from tongue and teeth. The angle can affect the “warmth” of a sound, as well as the nasality of the noise. As well, when the microphone is close to the object it causes what is known as the “proximity effect”, which means a boost or lift in the lower frequencies of the sound, making for a richer, “fatter” effect. The mix of direct (no reverberation from the room) and indirect (reflections) sound can influence the perceived distance (close miking will have stronger direct versus indirect sound). Microphone distance can usually be approximately equated to perceptual distance in the recording, however, as mentioned other effects can alter this perspective.
3. Use of reverberation and signal processors: As the microphone moves farther away from the source, more of the room’s tone is picked up, mixing the reverberation with the direct

signal. More reverberation can give us the impression of distance. Reverberation can appear different depending on if it uses high or low frequency damping effects: with little low-frequency damping, the perceived space appears large, solid and “rumbly” (basements, caves). Reverberation can be a tricky aspect to analyze: a little reverb sounds warm and pleasant, but too much reverb (with little low-frequency damping as in the examples below) sounds cold, suffocating and unreal. Reverberation can help to create a sense of space and place, and of emotional associations with those places—for instance, open spaces and loneliness, or warm, soft rooms. Likewise, more early reflections can lead to the perception of a smaller, more claustrophobic space. Various environmental effects can be used to simulate obstructions or other objects in the path of the direct signal [7]. The spatial signatures of one type of space may be artificially imposed on another in post-production. Additional processing techniques like compression can influence the way that the sound is heard after processing.

4. Amplitude: In the natural world loud sounds tend to be closer, so when sounds are artificially amplified, they appear closer to us. When amplified beyond what is natural, they can feel unnerving and in our intimate zone.
5. Mixing (in relation to the loudspeaker position): By pushing sounds into particular speakers when one knows the approximate speaker position set-up, we can adjust the perceived distance of sounds. A sound mixed front-and-centre for instance is likely going to appear closer than a sound placed in the rear right speaker in a theatre mix. Since in this paper we are dealing here with television adverts (usually mixed in stereo and not surround), we are not concerned with this aspect of sound positioning in this paper.

We therefore propose an analytical and creative framework for sonic proxemics that should include the following considerations:

1. The amplitude of the sound in relation to other sounds in the scene
2. The timbre of the sound as regards to its frequency spectrum and envelope
3. The use of processing effects, particularly in relation to other sounds in the scene
4. An estimated perceived microphone distance from the source
5. The positioning in the loudspeakers (or headphones)
6. Juxtapositions between visual and auditory perspective

Not all of these points may be relevant at any one time, but each should be considered in analysis and production. We now turn our attention to implementing this framework in an analysis of three Public Service Announcements.

Sonic Proxemics in Public Service Announcements

While all advertisement aims to persuade using a variety of emotional cues, Public Service Announcements (PSAs) often attempt to persuade audiences through evoking strong emotional responses, most commonly through “fear appeals” ([8]; [9]). In this way, PSAs are very close in nature to political advertising. We have chosen to use PSAs rather than political advertising here so as not to introduce any of our own political bias into the analysis. While there are many audiovisual parameters that influence the emotional response in PSAs ([10]; [11]), a notably unexplored area is the use of sound. We examine here how sound effects are used in three PSAs,

using the proxemic framework outlined above. The PSAs used here had been previously collected by an unknown Youtube user, “HelloImAPizza” under the title “Top 10 Most Effective British Adverts/Commercials” [12]. The particular collection was selected rather than other PSAs because it was the first response to come up in our search for “effective advertising”. Comments in the collection often describe the emotional responses to the PSAs as scary, creepy or sad:

“Well I think the majority of the adds [sic] effectiveness come from the fact that they're meant to scare you, disturbing imagery and scenarios that are meant to make you feel uncomfortable and frightened. The adds [sic] meaning is to scare you into realising the dangers of the world and to pay attention to them. At least I think that's what they're meant to do.”

“No offense but number 7 [Sarah’s Story]. Got me scared looked like some exorcist shit. I know it was a [sic] ad for a serious disease. But still. Creeped me out.”

“These commercials made my heart ache and damn near made me cry.”

In other words, most comments referred specifically to the strength of the emotional manipulation of the audience.

Although there are ten PSAs in the collection, due to space constraints we’ve focused on just three here, chosen at random: “On your Child’s Life” [13], “Sarah’s Story” [14] and “Break the Cycle” [15]. As well, for the sake of brevity we will not be discussing the music or voice in these ads, but rather focusing solely on sound effects.

“On your Child’s Life” is a fire safety advert featuring a boy of about seven playing with burnt toys in a house. Microphone distance and amplitude on the objects the boy interacts with are much louder and closer than natural: we hear individual grains of dirt falling to the floor when he brushes them off a counter, placing us very closely inside the scene. Tiny sounds like touching paper or an alarm clock are exaggerated and closely miked, making for a hyper-real sensation. In one shot we have a long shot camera angle combined with close microphone, again sonically placing us very closely in the scene, even if visually allowing the viewer to take in the entire environment (Figure one). With the exception of the boy addressing the camera, the scene is saturated with reverberation, perhaps to hint at the emptiness of the house, or the “other-worldliness” of the scene. The juxtaposition of reverberation with close miking puts us in the empty, sad space of the home.

Figure one. Screen shot from *“On your Child’s Life”***

In “Sarah’s Story”, a PSA about motor neurone disease, we watch a young woman in what looks like a basement of an office building undergo considerable physical distress as her muscles fail her and she’s flung about the room and her clothes are removed, leaving her nearly naked and contorted. Just listening to the clip without watching it sounds like a horror film: We hear groaning monstrous sounds and screeches that wouldn’t be present if the scene were meant to be real, rather than metaphoric. We also hear digital glitching sounds often used to signify a tape fast forwarding or sudden jump of time, to show the progression of the illness over time. Many of the sounds in the scene go through phases where they are muffled and treated with low pass filters (attenuating higher frequencies), as if we are going underwater, giving the impression of being strangled or drowned. Likewise, some sounds that we would expect to be present (being dragged along the ground) are absent. Both of these effects serve to emphasize the sounds that

are both louder than normal and/or close-miked. Most importantly, the silence and distortion juxtaposes with clear, close-miked sounds of her bones cracking as her body is forced into contortions. As with “On Your Child’s Life”, the scene is saturated with reverberation. A long reverb tail of nearly two full seconds accompanies a door slamming shut behind her at the start, emphasizing the sound and telling the audience that the door has firmly closed and there is no turning back. Here, the unnatural reverberation on her vocalizations (cries and mumbles) has the effect of putting us in her head, placing us in Sarah’s space and thus encouraging empathy.

“Break the Cycle”, about child abuse, repeats ever more rapidly a sequence of the consequences of abuse: A chaotic street scene where a teenage girl is robbing someone, the girl being shut in jail, at home being smacked by her father and being called worthless, being made fun of in school for not being able to read, and injecting drugs. As with the other PSAs described above, some sounds are exaggerated—notably her father smacking her on her head as he says “you worthless little cow”, the smack landing on “*worth*”. The smack of the father is by a significant margin the loudest sound in the commercial (about 8dB louder than the average—see Figure 2*). So the repetition, as it continues, focuses aurally on the smack until the smack is all that remains of what we hear. Even if we close our eyes, we cannot escape the violence. A visual capture of the waveform shows clearly the smacks and building up of repetition (the smacks are the peaks).

Figure 2: Visual screen capture of the waveform of the entire PSA “Break the Cycle” *

The fact that we have some otherwise apparently loud sounds in the scene—screaming, a jail door slamming—and are then set up for a much louder smack on the head emphasizes the strength of the smack as being the most significant element of the scene—indeed, it is clearly demarcated as the cause of the actions that follow through its repetition. But perhaps even more noticeable than the volume is the closer miking of the smack—we hear the smack with noticeable grain (overtones) and a reverb tail. The volume and miking of the smack place us very close in the scene, as if it is we who are being smacked, not another person.

Conclusions: Proxemics and Persuasion

We have presented here a framework for the use and analysis of sonic proxemics in media, along with three PSAs that use sonic proxemics to emphasize key themes and draw audience focus. Sonic proxemics is both a spatial and subjective sense of distance. This area of media rhetorics is significantly under-explored and deserves further consideration. While our focus has been on public service announcements, this approach could be easily used to explore an auditory rhetoric in political communications, to reveal underlying messages that work on an emotional level that may not be obvious in the visual or verbal message. In particular, because we are rarely taught a language with which to unpack auditory aspects of communication, it is particularly important to understand how audio can be used to persuade.

References

- [1] John Purcell, *Dialogue Editing for Motion Pictures: A Guide to the Invisible Art* (New York: Focal Press, 2014) p. 203.
- [2] Edward T. Hall, *The Hidden Dimension* (Garden City, NY: Doubleday & Company, Inc., 1966).

- [3] Stewart Ferguson, and Sherry D. Ferguson, "Proxemics and Television: The Politician's Dilemma," *Canadian Journal of Communication* Vol. 4 No. 4, pp. 26-35 (1978).
- [4] Wei Huang, Judith S. Olson, and Gary M. Olson, "Camera angle affects dominance in video-mediated communication," *CHI '02 Extended Abstracts on Human Factors in Computing Systems*, pp. 716-717 (2002).
- [5] Arnt Maasø, "The Proxemics of the Mediated Voice: An Analytical Framework for Understanding Sound Space in Mediated Talk," *Lowering the Boom: Critical Studies in Film Sound* (2008), edited by Jay Beck and Anthony Grajeda, pp. 36-50. Urbana and Chicago: University of Illinois Press.
- [6] Ruth Dockwray, "Proxemic Interaction in Popular Music Recordings", *Popular Music: In Practice*, 1 (2013) <http://www.popularmusicinpractice.com?#!proxemics-1/ciq3>.
- [7] Karen Collins, "Sonic Subjectivity and Auditory Perspective in Ratatouille," *Animation: An Interdisciplinary Journal* Vol. 8. No. 3, pp. 283-299 (2013).
- [8] Vicki S. Freimuth, Sharon L. Hammond, Timothy Edgar and Jennifer L. Monahan, "Reaching those at risk: A content-analytic study of AIDS PSAs," *Communication Research*, No. 6, pp.775-791 (1990).
- [9] Jerold L. Hale and James P. Dillard, "Fear appeals in health promotion campaigns: Too much, too little, or just right?" *Designing health messages: Approaches from communication theory and public health practice* (pp. 65-80). Thousand Oaks, CA: Sage (1995). E. Maibach & R. L. Parrott (Eds.),

[10] Annie Lang, “Involuntary attention and physiological arousal evoked by structural features and emotional content in T.V. commercials”. *Communication Research*, No. 17, pp. 275–299 (1990).

[11] James P. Dillard and Eugenia Peck, “Affect and Persuasion: Emotional Responses to Public Service Announcements” *Communication Research* Vol. 27. No. 4, pp. 461-495 (2000).

[12] HelloImAPizza, “Top 10 Most Effective British Adverts/Commercials”
<https://www.youtube.com/watch?v=MKvKXGMDc5E> .

[13] “On your Child’s Life,” Public Service Announcement, Fire Kills (2013).
<https://www.youtube.com/watch?v=MKvKXGMDc5E>

[14] “Sarah’s Story”, Public Service Announcement, Motor Neurone Disease Association (2009).
<https://www.youtube.com/watch?v=MKvKXGMDc5E>

[15] “Break the Cycle,” Public Service Announcement, Barnardo’s (2008).
<https://www.youtube.com/watch?v=MKvKXGMDc5E>

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Captions:

Figure one: Juxtaposition of a long shot camera angle with close miking.

Figure two: Screenshot of PSA waveform in Adobe Audition: The peaks of the waveform represent the smacks.